

CLAIMS

What is claimed is:

- 1 1. An apparatus, comprising:
2 a request queue coupled to a memory unit via a memory-sensing device;
3 a response queue coupled to the memory-sensing device; and
4 an arbiter coupled to said response queue.
- 1 2. The apparatus of claim 1, wherein the memory-sensing device comprises
2 redundant circuitry capable of sensing memory in the memory unit substantially
3 simultaneously.
- 1 3. The apparatus of claim 1, wherein said request queue comprises memory to store
2 more than one request.
- 1 4. The apparatus of claim 3, wherein the memory to store more than one request
2 comprises memory to service more than one request substantially simultaneously.
- 1 5. The apparatus of claim 1, wherein said response queue comprises memory to store
2 data for a response.
- 1 6. The apparatus of claim 1, wherein said arbiter comprises a response arbiter to
2 determine a response to more than one request.
- 1 7. The apparatus of claim 6, wherein the response arbiter comprises a priority
2 determiner to determine a priority of a response to a request.
- 1 8. The apparatus of claim 1, wherein said arbiter comprises a request arbiter coupled
2 to said request queue.

- 1 9. A method, comprising:
2 receiving more than one request for sensing data in a memory unit;
3 sensing data in the memory unit;
4 returning critical data in response to said receiving more than one request;
5 and
6 returning non-critical data.
- 1 10. The method of claim 9 wherein said receiving more than one request for sensing
2 data in a memory unit comprises receiving a second transaction before completing
3 a response to a first transaction.
- 1 11. The method of claim 9 wherein said receiving more than one request for sensing
2 data in a memory unit comprises receiving a request to read critical data.
- 1 12. The method of claim 9 wherein said sensing data in the memory unit comprises
2 determining an order to sense data based on available redundant circuitry.
- 1 13. The method of claim 9 wherein said returning critical data comprises interrupting
2 a response to a first request comprising non-critical data to return critical data in
3 response to a second request.
- 1 14. The method of claim 9 wherein said returning non-critical data comprises
2 returning non-critical data in accordance with a pre-defined protocol.
- 1 15. The method of claim 14 wherein returning non-critical data in accordance with a
2 pre-defined protocol comprises responding to each request of the more than one
3 request with time-sliced burst data.
- 1 16. The method of claim 14 wherein returning non-critical data in accordance with a
2 pre-defined protocol comprises returning non-critical data in an order based upon
3 a priority attached to the more than one request.

- 1 17. A system, comprising:
2 a virtual-port memory device;
3 a memory controller coupled to said virtual-port memory device; and
4 a host coupled to said memory controller.
- 1 18. The system of claim 17, wherein said virtual-port memory device comprises:
2 a request queue coupled to a memory unit via a memory sensing device;
3 a response queue coupled to the memory sensing device; and
4 an arbiter coupled to said response queue.
- 1 19. The system of claim 18, wherein the arbiter comprises a response arbiter to
2 determine a response to more than one request.
- 1 20. The system of claim 17, wherein said memory controller comprises:
2 a response interpreter coupled to said virtual-port memory device;
3 a host response queue coupled to the response interpreter; and
4 a host request queue coupled to said host.

- 1 21. A system, comprising:
2 a virtual-port memory device coupled to a microprocessor; and
3 an input-output device coupled to the microprocessor.
- 1 22. The system of claim 21, wherein said virtual-port memory device comprises:
2 a request queue coupled to a memory unit via a memory sensing device;
3 a response queue coupled to the memory sensing device; and
4 an arbiter coupled to said response queue.
- 1 23. The system of claim 21, wherein said input-output device comprises an antenna
2 device.
- 1 24. The system of claim 21, wherein said input-output device comprises an audio
2 input device and an audio output device.

1 25. A machine-readable medium containing instructions, which when executed by a
2 machine, cause said machine to perform operations, comprising:
3 receiving more than one request for sensing data in a memory unit;
4 sensing data in the memory unit;
5 returning critical data in response to said receiving more than one request;
6 and
7 returning non-critical data.

1 26. The machine-readable medium of claim 25 wherein said receiving more than one
2 request for sensing data in a memory unit comprises receiving a second
3 transaction before completing a response to a first transaction.

1 27. The machine-readable medium of claim 25 wherein said receiving more than one
2 request for sensing data in a memory unit comprises receiving a request to read
3 critical data.

1 28. The machine-readable medium of claim 25 wherein said sensing data in the
2 memory unit comprises determining an order to sense data based on available
3 redundant circuitry.

1 29. The machine-readable medium of claim 25 wherein said returning critical data
2 comprises interrupting a response to a first request comprising non-critical data to
3 return critical data in response to a second request.

1 30. The method of claim 25 wherein said returning non-critical comprises returning
2 non-critical data in accordance with a pre-defined protocol.